

REMARKS

Upon entry of the present amendment claims 1-26 remain in the application. Claims 24-30 were withdrawn from consideration. Claims 27-30 are canceled without prejudice.

Response to Restriction Requirement

Restriction was required to Group I- claims 1-23, Group II- claims 24 -26 and Group III- claims 27-30. Applicants, through their attorney elected Group I with traverse. Claims 24-30 were withdrawn from further consideration as being drawn to a non-elected invention. Applicants have not canceled claims 24-26 in the event claims 1-23 are allowed and claims 24-26 are rejoined.

35 USC §112 Second Paragraph Rejection

Claim 13 was rejected for the reason that forming a colloidal emulsion of water was defined, however no antecedent basis was established for water. The claim has been amended to provide an antecedent basis for water. Withdrawal of the rejection of claim 13 is respectfully requested.

35 USC §103(a) Rejection

Claims 1-6, 13, 14 and 17-23 are rejected on the basis of Ohrbom et al. (US 6,160,058) in view of Yokoyama et al. (US 2001/0036999). Ohrbom discloses curable coating compositions comprising components (a), (b) and (c). Component (b) is defined as an acrylic polymer with hydroxyl functionality. Carbamate functionality may also be introduced to acrylic polymer. A solvent reading on component (c) may be used in the composition, such as methyl ethyl ketone. Water is also disclosed. The office action stated that Ohrbom did not disclose a water miscible organic solvent.

The office action cited Yokoyama for disclosing low volatile organic content coating compositions based on a polyester polyol resin and acrylic polyol resin. Solvents such as acetone were disclosed.

The office action concludes that it would have been obvious to combine the composition of Ohrbom with the solvent of Yokoyama to lower the viscosity and facilitate spray application of the composition.

The office action further stated that the limitation of claim 5, defining the colloidal emulsification of water could be assumed to be inherently satisfied by prior art because when the

coating is prepared by thorough mixing of all ingredients including water and water which is a discontinuous phase is likely to be emulsified in the continuous polymeric phase.

Applicants submit that claims 1-6, 13 and 14 and 17-23 are allowable over the combined Ohrbom ('058) and Yokoyama references. A prima facie case of obviousness over these references is not presented due to the fact that the references do not provide any motivation for the claimed invention. The present invention is directed to a solvent borne coating which is an emulsion of water and a continuous phase of polymer and solvents which are water miscible. This provides a solvent borne coating having low volatile organic content because water is substituted for some organic solvent, while maintaining an emulsion of polymer, water and solvent. Water is not generally added to a solvent borne coating in an appreciable amount as it does not form an emulsion with solvents in a solvent borne coating. The present invention provides a solution to this problem.

Ohrbom ('058) does not disclose a water miscible solvent. Ohrbom does not suggest, teach or define a coating which is a an emulsion of continuous phase of polymer and solvent, together with water as defined in the instant claims. Yokoyama does disclose acetone, one possible example of a water miscible solvent. However Yokoyama provides no motivation to combine acetone with water in a solvent borne coating since it does not teach, suggest or define a coating composition containing water as a solvent together with acetone. Yokoyama does not teach, suggest or define a coating comprising a solvent package comprising water, a water-miscible organic solvent and an oxygenated solvent having a Hansen solubility parameter hydrogen bonding value of up to about 6.0 that is designed to provide a coating with a lower volatile organic content. Yokoyama teaches away from such a solvent package to lower molecular weight as it expressly teaches a coating containing low molecular weight polyester polyol resins to increase solid content. By using lower molecular weight polymers the need for

solvent is reduced. Therefore the reference does not provide motivation for the instantly claimed composition where water is used as a solvent in an emulsion of a continuous phase of polymer and solvent. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1-6, 13, 14 and 17-23 on the basis of Ohrbom ('058) and Yokoyama.

With respect to the patentability of claim 5, Applicants submit that while the Examiners statement would be true of a composition comprising primarily water as the solvent, the amended claim defines less than or equal to 50% water and would not be expected to form a colloidal emulsion with solvent. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 7, 8, 9, 10, 11, 15 and 16 were rejected as being unpatentable over Ohrbom et al in view of Yokoyama et al as applied to claim 1 and further in view of Grandhee (US 6,342,558). Ohrbom and Yokoyama together failed to mention the claimed hydroxyl equivalent. Grandhee disclosed a primer containing acrylic polymer with an equivalent weight of 1000 or less per equivalent. The office action concluded that it would therefore have been obvious to use acrylic polymer having this equivalent weight to enhance chip resistance.

Applicants submit that claims 7-11, 15 and 16 are not obvious over Ohrbom, Yokoyama and Grandhee for the reason that the combination of references does not teach the claimed invention. For the reasons discussed above, the Ohrbom and Yokoyama references do not provide motivation to form a coating comprising the solvent package and emulsified water-solvent- polymer mixture as defined in claims 7, 8, 9, 10, 11, 15 and 16. The present invention teaches that the hydroxyl functional acrylic has an equivalent weight to provide sufficient hydroxyl functionality so the acrylic polymer in conjunction with the water miscible solvent and oxygenated solvent that has hydrogen bonding stabilizes the emulsion of water. While Grandhee

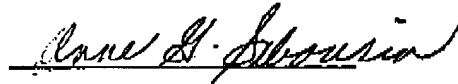
teaches polymers in this equivalent weight range it does not provide any motivation to form a coating containing such polymers with the solvent package including water as defined in the instant claims. For these reasons Grandhee combined with Ohrbom and Yokoyama does not provide motivation for the present invention. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 7, 8, 9, 10, 11, 15 and 16 over Ohrbom '058, Yokoyama and Grandhee.

Claim 12 was rejected on the basis of Ohrbom (US 6,160,058) in view of Yokoyama et al and Ohrbom(US 2003/0114590). Ohrbom '590 was stated to disclose an acrylic polymer with a carbamate equivalent of 250 to 1500 grams/mole. The office action concluded that it would therefore be obvious to use in the composition of Ohrbom '058, an acrylic polymer having such a carbamate equivalent wt. to make the film more etch resistant and more flexible.

Applicants submit that the combination of Ohrbom '058, Yokoyama and Ohrbom '590 does not render claim 12 obvious. The carbamate functional acrylic resin defined in the instant claims is described in the specification as having an equivalent weight to provide sufficient carbamate functionality so that the the acrylic polymer in conjunction with the water miscible solvent and oxygenated solvent that has hydrogen bonding stabilizes the emulsion of the water. While Ohrbom teaches polymers having an equivalent weight within the parameters of the present invention, it does not teach, suggest or provide any motivation to form a coating containing such polymers with the solvent package including water as defined in the instant claims. For these reasons Applicants submit that claim 12 is not obvious in view of the combined cited references. Applicants respectfully request withdrawal of the rejection of claim 12.

Applicants submit that in view of the amendments and arguments set forth above, the claims are patentable over the cited art and respectfully request allowance of the claims.

Respectfully submitted,



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February 6, 2004
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